

IN THE CLAIM

1 1. (Previously Amended, Currently Amended) A method for managing a memory system
2 having a plurality of subsystems, comprising the steps of:
3 upon accessing the memory system for a piece of data used by a first
4 process
5 determining an access time to acquire the piece of data in the
6 memory system;
7 comparing the determined access time to a threshold; and
8 taking actions based on results of the comparing step; including
9 postponing execution of the first process and allowing
10 execution of a second process;
11 wherein a value of the threshold is selected based on ~~one or a combination~~
12 ~~of~~
13 cost of switching processes for execution, ~~and~~
14 ~~whether the value is a realistic time for a memory access.~~

1 2. (Canceled)

1 3. (Previously Amended) The method of claim 1 wherein an intelligence performing the
2 steps of postponing and allowing upon a notification from a latency manager
3 regarding a relationship between the determined access time and the threshold; the
4 latency manager determining the relationship independent from the intelligence.

1 4. (Original) The method of claim 3 wherein the intelligence is selected from a group
2 consisting of a processor working with the memory system, an operating system

3 working with the memory system, software running on the processor, and a
4 memory manager managing the memory system.

1 5. (Previously Amended) The method of claim 1 wherein the actions further include
2 monitoring the memory system or a system using the memory system.

1 6. (Original) The method of claim 1 wherein the determined access time is selected as the
2 longest access time of a plurality of access times each of which corresponds to a
3 memory access in a multiple memory access.

1 7. (Original) The method of claim 1 further comprising the step of accessing the piece of
2 data in more than one subsystem at the same time; one subsystem having a shorter
3 access time and one subsystem having a longer access time; the determined access
4 time being that of the subsystem having the shorter access time, and, if the piece of
5 data is missed in the subsystem having the shorter access time, then the
6 determined access time being that of the subsystem having the longer access time.

1 8. (Previously Amended) The method of claim 1 further comprising the step of updating a
2 previously determined access time to the determined access time if the determined
3 access time is greater than the previously determined access time.

1 9. (Original) The method of claim 1 further comprising the step of notifying an
2 intelligence working with the memory system; the intelligence being selected from
3 a group consisting of a processor, an operating system, software running on the
4 processor, and a memory manager managing the memory system; the intelligence
5 performing the step of taking actions.

1 10. (Original) The method of claim 1 further comprising the step of changing the
2 determined access time upon performing a task selected from a group consisting of
3 changing the threshold, initiating an interrupt to an intelligence working with the
4 memory system, and postponing executing the first process and allowing
5 executing a second process.

1 11. (Previously Amended) The method of claim 1 wherein the determined access time is
2 selected from a time to access at least one subsystem.

1 12. (Previously Amended) The method of claim 1 wherein a latency manager performing
2 the step of determining; the latency manager being on a data path between a
3 processor working with the memory system and the plurality of subsystems.

1 13. (Original) The method of claim 1 wherein the data is accessed from a subsystem
2 having a shorter access time to a subsystem having a longer access time or in a
3 non-sequential order.

1 14. (Previously Amended, Currently Amended) A method for managing a memory system
2 having a plurality of subsystems, comprising the steps of:
3 comparing an access time of a subsystem to a threshold; a value of the
4 threshold being selected based on ~~one or a combination of~~ cost of
5 switching processes for execution ~~and whether the value is a~~
6 ~~realistic time for a memory access;~~
7 earmarking the subsystem based on results of the comparing step;

8 from the plurality of subsystems, determining an order for data to be
9 accessed from a subsystem having a shorter access time to a
10 subsystem having a longer access time; and
11 upon accessing the memory system for a piece of data used by a first
12 process, if the data is missed in the earmarked subsystem, then
13 postponing executing the first process and allowing executing a
14 second process.

1 15. (Previously Amended) The method of claim 14 wherein an intelligence performing the
2 steps of postponing and allowing upon notification from a latency manager
3 regarding a relationship between the determined access time and the threshold; the
4 intelligence being selected from a group consisting of a processor working with
5 the memory system, an operating system working with the memory system,
6 software running on the processor, a memory manager managing the memory
7 system; the latency manger being part of managing the memory system.

1 16. (Previously Amended, Currently Amended) An apparatus for managing a memory
2 system having a plurality of subsystems, comprising:
3 means for, upon accessing the memory system for a piece of data used by a
4 first process,
5 determining an access time to acquire the piece of data in the
6 memory system;
7 comparing the determined access time to a threshold; and
8 taking actions based on results of the comparing step; including
9 postponing execution of the first process and allowing
10 execution of a second process;

11 wherein a value of the threshold is selected based on ~~one or a combination~~
12 ~~of~~
13 cost of switching processes for execution, ~~and~~
14 ~~whether the value is a realistic time for a memory access.~~

1 17. (Canceled)

1 18. (Original) The apparatus of claim 16 wherein the determined access time is selected
2 as the longest access time of a plurality of access times each of which corresponds
3 to a memory access in a multiple memory access.

1 19. (Original) The apparatus of claim 16 further comprising means for accessing the
2 piece of data in more than one subsystem at the same time; one subsystem having
3 a shorter access time and one subsystem having a longer access time; the
4 determined access time being that of the subsystem having the shorter access time,
5 and, if the piece of data is missed in the subsystem having the shorter access time,
6 then the determined access time being that of the subsystem having the longer
7 access time.

1 20. (Previously Amended, Currently Amended) An apparatus for managing a memory
2 system having a plurality of subsystems, comprising:
3 means for comparing an access time of a subsystem to a threshold; a value
4 of the threshold being selected based on ~~one or a combination of~~
5 cost of switching processes for execution ~~and whether the value is a~~
6 ~~realistic time for a memory access;~~
7 means for earmarking a subsystem; and

8 means for determining, from the plurality of subsystems, an order for data
9 to be accessed from a subsystem having a shorter access time to a
10 subsystem having a longer access time;
11 wherein upon accessing the memory system for a piece of data used by a
12 first process, if the data is missed in the earmarked subsystem, then
13 postponing execution of the first process and allowing execution of
14 a second process.

1 21. (Previously Amended, Currently Amended) A computer-readable medium embodying
2 instructions for a computer to perform a method for managing a memory system
3 having a plurality of subsystems, the method comprising the steps of:
4 upon accessing the memory system for a piece of data used by a first
5 process,
6 determining an access time to acquire the piece of data in the
7 memory system;
8 comparing the determined access time to a threshold; and
9 taking actions based on results of the comparing step; including
10 postponing execution of the first process and allowing
11 execution of a second process;
12 wherein a value of the threshold is selected based on ~~one or a combination~~
13 ~~of~~
14 cost of switching processes for execution, ~~and~~
15 ~~whether the value is a realistic time for a memory access.~~

1 22. (Canceled)

1 23. (Original) The computer-readable medium of claim 21 wherein the determined access
2 time is selected as the longest access time of a plurality of access times each of
3 which corresponds to a memory access in a multiple memory access.

1 24. (Original) The computer-readable medium of claim 21 wherein the method further
2 comprising the step of accessing the piece of data in more than one subsystem at
3 the same time; one subsystem having a shorter access time and one subsystem
4 having a longer access time; the determined access time being that of the
5 subsystem having the shorter access time, and, if the piece of data is missed in the
6 subsystem having the shorter access time, then the determined access time being
7 that of the subsystem having the longer access time.

1 25. (Previously Amended) A computer-readable medium embodying instructions for a
2 computer to perform a method for managing a memory system having a plurality
3 of subsystems, the method comprising the steps of:
4 comparing an access time of a subsystem to a threshold; a value of the
5 threshold being selected based on ~~one or a combination of~~ cost of
6 switching processes for execution ~~and whether the value is a~~
7 ~~realistic time for a memory access;~~
8 earmarking the subsystem based on results of the comparing step;
9 from the plurality of subsystems, determining an order for data to be
10 accessed from a subsystem having a shorter access time to a
11 subsystem having a longer access time; and
12 upon accessing the memory system for a piece of data used by a first
13 process, if the data is missed in the earmarked subsystem, then

14 postponing executing the first process and allowing executing a
15 second process.

1 26. (Previously Presented) The computer-readable medium of claim 21 wherein the
2 actions further include monitoring the memory system or a system using the
3 memory system.

1 27. (Previously Presented) The computer-readable medium of claim 21 wherein the
2 method further comprising the step of updating a previously determined access
3 time to the determined access time if the determined access time is greater than the
4 previously determined access time.

1 28. (Previously Presented) The computer-medium of claim 1 wherein the determined
2 access time is selected from a time to access at least one subsystem.